

## OVERVIEW

The rIO is a fixture embedded low voltage wireless nLight AIR device capable of individual fixture control and analog or digital dimming. This smart device results in the luminaire being “nLight AIR-enabled” – making it an addressable nLight AIR device. It uses a 900MHz radio to communicate with other nLight AIR devices, such as occupancy sensors, photocells, wall switches, powerpacks and other nLight Air-enabled luminaires. This allows for advanced operation and design flexibility ranging from stand-alone rooms to building and campus-wide networks.

## NETWORK INTERFACE FEATURES

- Individual fixture control embedded at the luminaire level
- Fully dimmable via digital or analog dimming protocols, providing the right amount of light for the application and to optimize energy savings
- Optional UL924 emergency functionality when paired with an EldoLED driver that supports power loss detection

## INSTALLATION FEATURES

- Wireless communication enables simple retrofits - no communication wires to pull between devices
- Integrated at the factory, no onsite wiring required
- Optional external antennas for demanding or unique applications
  - A 900Mhz external antenna for demanding applications and optimal BLE luminaire coverage
  - A dual-band (900 Mhz and BLE) external antenna for unique applications where the device needs to be hidden inside the fixture
- Simple app-based configuration of space behaviors

## ADVANCED WIRELESS FEATURES

- Devices intercommunicate to provide grouped-response to motion and on/off and dimming response to daylight conditions when wirelessly connected to a motion or daylight sensor
- Fully compatible with other nLight AIR devices on the site
- Easy to integrate into the nLight Eclipse which provides site-wide lighting control through nLight's SensorView software and further BMS integration
- Advanced wireless security measures providing peace-of-mind

## Warranty

Five-year limited warranty. Complete warranty terms located at: [www.acuitybrands.com/support/customer-support/terms-and-conditions](http://www.acuitybrands.com/support/customer-support/terms-and-conditions)

**Note:** Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice.

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nLight® AIR  
rIO  
Fixture embedded  
network interface



## ORDERING INFORMATION

RIO				Example: RIO EZDL 90D G2	
Series	Dimmer Type	Emergency <sup>1</sup>	Antenna		
RIO Fixture embedded nLight AIR interface	EZDL LEDcode ZT 0-10 VDC	[blank] None EM UL924 Emergency Operation	[blank] NiTi Antenna EXT900 900MHz External Antenna EXTDB Dual Band External Antenna		
Antenna Color <sup>2</sup>	Angle	Generation			
ACBK Black ACWH White	90D 90° antenna orientation 180D 180° antenna orientation	G2 Generation 2 compatibility			

Note:  
1. EM option not available with ZT option.  
2. Only required with EXT900 or EXTDDB options.

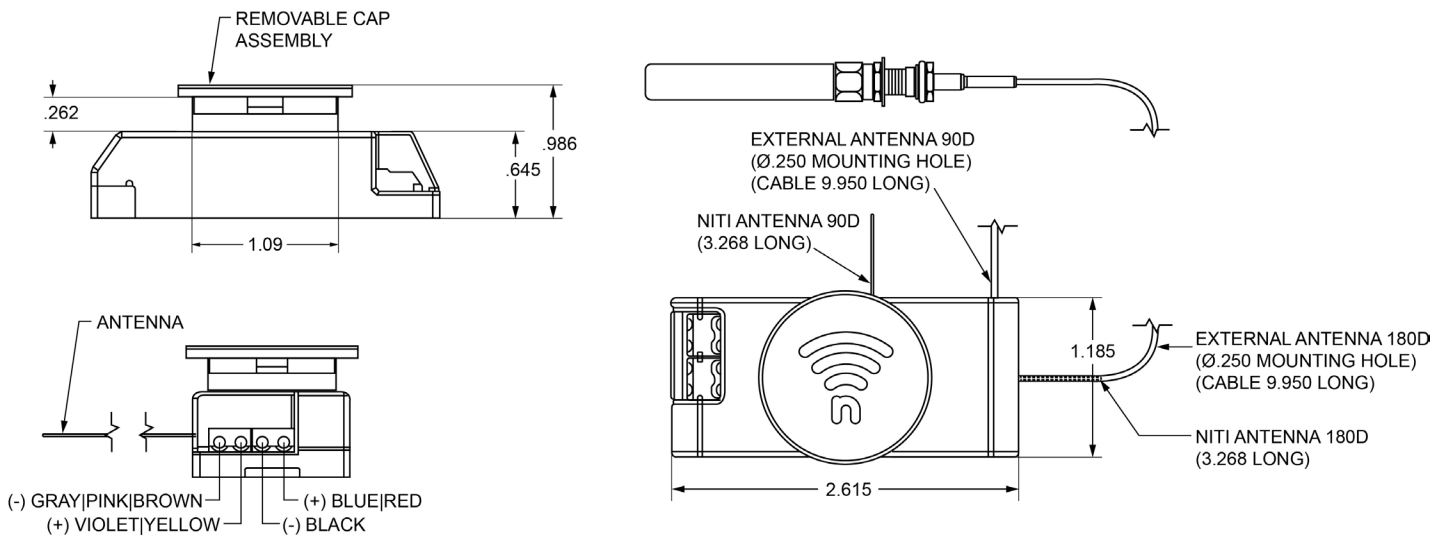
## SPECIFICATIONS

## Out-Of-Box Functionality

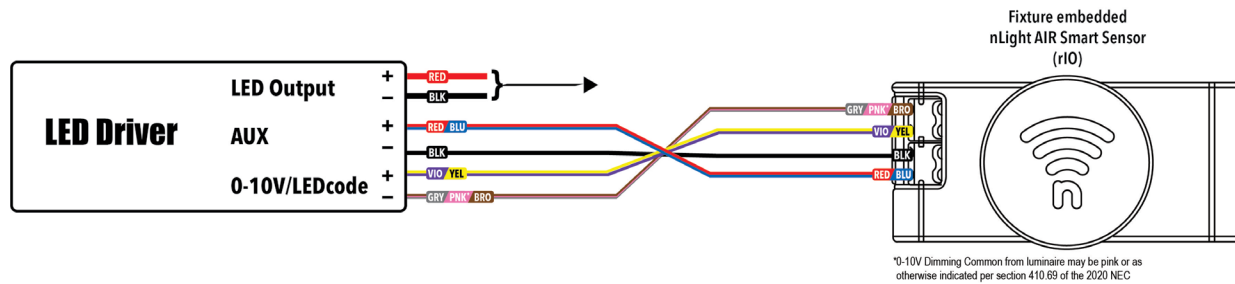
Default max trim level (ZT devices) 8V

Input Power	6-50VDC, 700mW min
Dimensions	1.180" h x 2.617" w x 1.335" d
Product Weight	1.25 oz
Trim Color	White
Enclosure Material	Poly-Carbonate/ABS
Max Humidity	0-95% non-condensing
Operating Temperature	-40°C to 85°C
Mounting	Fixture-mounted
Radio Frequency	Dual Radio: 900MHz & 2.4GHz
RF Transmit Power	900MHz: up to 20dBm 2.4GHz: up to 10.4 dBm
Wireless Standard	900MHz: IEEE 802.15.4-based 2.4GHz: Version 4.0+ of the Bluetooth specification
Security	Application Data Encryption: AES-128 bit Mutual Entity Authentication Message Confidentiality Message Authentication and Replay Prevention Limited Anonymity
Regulatory Compliance	Complies with California Civil Code Title 1.81.26, Security of Connected Devices, approved under Senate Bill No. 327 (2018) Wireless: FCC, IC, IFETEL Safety: cULus Listed; RoHS Compliant, Non-EM: UL916; EM: UL924 and CSA-C22.2 No. 141-15; NOM Certified
Programming Tool	Clarity Pro Mobile App

## DIMENSIONS (drawing not to scale)



## WIRING (Do not wire hot)



For more detailed wiring information and compatible driver, refer to Installation Instruction Sheet

### UL924 Sequence of Operation (EM Option - V2.1 EldoLED driver only):

For 90 minutes following any complete AC power interruption >200 ms:

- Digital dimming is commanded to high end trim level
- Device ignores wireless lighting control commands
- If another nLight AIR device in the nLight AIR group (as defined by Clarity Pro) is on normal power, and has its power restored prior to the 90-minute timeout, the "EM" device will exit this override state and return to normal operation. This is accomplished by having a normal power device send an "exit EM" message to the "EM" device
- Devices that will send the "exit EM" command when normal power is present
  - Dimming Power Pack Devices (rPP20 D/DS)
  - ER Non-Dimming and Dimming Power Pack Devices (rPP20 D/DS ER)
  - Other nLight AIR Non-"EM" Devices (rLSXR, rSBOR, rSDGR, rIO, rES7, rMSOD)
- Devices that will not send the "exit EM" command when normal power is present
  - Non-Dimming Power Pack Devices (rPP20)
  - Other nLight AIR "EM" Devices (rPP20 EM, rLSXR EM, rSBOR EM, rSDGR EM, rIO EM, rES7 EM, rMSOD EM)
  - Ceiling Mount Sensors (rCMS)
  - Wall Switches (rPODB, rPODL)
  - nLight Air Adapter (nECYD)
- Upon power up, "EM" devices will be at high trim setting for 90 minutes. During commissioning with Clarity Pro, the device will exit this override when a device is identified or added to the grid.